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'Biology, culture play big part in obesity'

By [Isaac Davison](#)

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Obesity policy-makers place too much emphasis on exercise, smoking and weight loss, and not on complex biological and cultural factors, says a New Zealand-led study. The commentary paper co-authored by the Prime Minister's chief science adviser Professor Peter Gluckman urges politicians and scientists to see the bigger picture in their attempts to stem rising epidemics of obesity worldwide. The paper, which is aimed at the treatment of obesity in poorer countries, is published today in the journal *Science Translational Magazine*. Professor Gluckman and colleagues wrote that wealthy nations' failure to lower obesity rates and its related disorders was partly due to the focus on changing adult life-styles – banning tobacco, and encouraging exercise and weight loss. The authors emphasised that this limited prescription must not be naively passed on to poorer countries, which are experiencing alarming increases in obesity. "It is crucial that we apply lessons from the failure of wealthy countries to curb obesity and not extend ineffective strategies to the developing world," the article said. Professor Gluckman said the capacity for developing countries to deal with people who had already been diagnosed with obesity-related disorders was limited. He said more emphasis should be placed on the biological drivers of obesity. "The more and more we look, the more we realise that there are fundamental differences in biology which determine whether you are going to get diabetes or not, which are set up in early life." The paper said there was evidence that during development, an embryo, fetus or infant took cues from its environment to set patterns of metabolism or energy use in later life, and that these contributed to its body-type. In April, the Liggins Institute contributed to breakthrough research which showed a pregnant mother's diet could alter her future child's DNA, potentially determining whether they will grow up to be obese. Professor Gluckman said these biological factors needed to be viewed alongside cultural perceptions in poorer countries. The paper cited several complex cultural factors. Populations and individuals showed contrasting patterns of fat deposition. The ideal body shape was different depending on cultural and social influences. And symptoms of obesity were slow to develop, making it difficult for people to commit money to unseen problems. The authors noted that economic transition towards affluence often gave poorer countries more access to junk food, which was cheaper than high-quality fresh foods. **Weighty problem** * Different societies have widely varying perceptions of ideal body shape. * Diseases associated with obesity are often slow to develop, making it difficult to commit money to treatment. * Economic progress gives countries greater access to cheaper, refined foods which have lower nutritional value.



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